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REMARKS

Claims 1-23 and 32-34 are all the claims presently pending in the application.

Claims 24-31, which are directed to a non-elected invention, have been canceled without prejudice or disclaimer to the filing of a Divisional Application directed to the subject matter of these claims.

Claim 1 has been amended merely to define more clearly and particularly the statutory subject matter of the invention.

New claims 32-34 have been added to provide more varied protection for the present invention.

It is noted that the claim amendments are made only for more particularly pointing out the invention, and not for distinguishing the invention over the prior art, narrowing the claims or for any statutory requirements of patentability. Further, Applicant specifically states that no amendment to any claim herein should be construed as a disclaimer of any interest in or right to an equivalent of any element or feature of the amended claim.

Claims 1-23 stand rejected under 35 U.S.C. § 101.

Claims 8-10 and 11-14 stand rejected under 35 U.S.C. § 112, second paragraph.

Claims 1-23 also stand rejected on prior art grounds. Particularly, claims 1-7, 15, 16, and 23 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Perrizo (U.S. Publication No. 2003/0009467A1) in view of Ridgley (U.S. Patent No. 6,583,800). Claims 17-22 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Perrizo in view of Ridgley, and further in view of Lipson, et al. (U.S. Patent No. 6,463,426).

These rejections are respectfully traversed in the following discussion.

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I. THE CLAIMED INVENTION

In contrast with conventional navigation techniques, the spatial navigation technique according to the claimed invention does not rely exclusively on the traversal of links in order to retrieve documents from the World Wide Web. That is, the novel and unobvious method according to the claimed invention allows the user to move from one page to another without traversing a link (e.g., without opening up a document by clicking with a browser or the like) (e.g., see specification at page 13, lines 15-20).

More particularly, in the spatial navigation method according to the claimed invention, the data blocks (Web pages, pictures, etc.) are indexed such that each data block resides in a specific point in a N-dimensional coordinate system. The placement of the data blocks in the N-dimensional coordinate system is performed such that data blocks which are relatively "close" to each other are related to the same subjects (e.g., see specification at page 14, lines 1-5).

Thus, the mapping of the data blocks into N-dimensional state enables a unique and unobvious Web navigation method based on space coordinates (e.g., see specification at page 15, lines 4-5).

For example, in an illustrative, non-limiting aspect of the invention, as defined for example by independent claim 1, a computer implemented method of navigating data blocks includes opening a first data block of a plurality of data blocks of interest, the plurality of data blocks being spatially indexed in N dimensions, viewing a closeness relationship between the first data block opened and a second plurality of data blocks based on their content, and accessing a second data block of the second plurality of data blocks which is viewed to be closest to the first data block.

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II. THE 35 U.S.C. § 101 REJECTION

Claims 1-23 stand rejected under 35 U.S.C. § 101. While Applicant believes that claims 1-23 are directed to statutory subject matter (i.e., a new and useful process), to speed prosecution, Applicant has amended independent claim 1 to recite a "*computer implemented method of navigating data blocks, comprising...*" Thus, Applicant submits that the rejection under 35 U.S.C. § 101 should be overcome and respectfully requests that the Examiner withdraw this rejection.

III. THE REJECTION UNDER 35 U.S.C. § 112, SECOND PARAGRAPH

Claims 8-14 stand rejected under 35 U.S.C. § 112, second paragraph.

The Examiner alleges that it is unclear what is the term "*j*" recited in claims 8-14. Thus, clarification or correction has been requested.

For purposes of clarification, Applicant respectfully submits that "*j*" is defined as being "*a number j*", by claim 8. That is, claim 8 recites a number (e.g., a variable) which is set to 0. Claim 8 further recites that it is determined whether "*j*" is less than the number N of keywords in a search corpus, and if so, the search result is calculated as a number of occurrences of work W_j in the data block B(i). Claim 8 also recites a step of incrementing "*j*" by "1" and determining whether "*j*" is less than N.

Applicant respectfully submits that the ordinarily skilled artisan would clearly understand the metes and bounds of the claimed invention, which recites "*a number j*" which is, among other things, incremented by "1" and compared to a number N of keywords, according to the claimed method.

For example, Figure 5 of the present application exemplarily illustrates a flowchart in which a number "*j*" is set to be equal to 0 (e.g., see Step 515), and compared to a

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number N of keywords in the search corpus (e.g., see Step 520, and incremented by "1" (see Step 540) (*all reference numerals herein being used for the Examiner's clarity only and not for limiting the claims*) (e.g., see also the specification at page 20, lines 7-22 and page 21, lines 1-2).

Thus, Applicant respectfully submits that the ordinarily skilled artisan would clearly understand the metes and bounds of the claimed invention, which recites "*a number j*", as recited in claims 8-14.

For the foregoing reasons, the Examiner is requested to withdraw this rejection and permit claims 8-14 to pass to immediate allowance.

IV. THE PRIOR ART REJECTIONS

A. Claims 1-7, 15, 16, and 23 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Perrizo in view of Ridgley.

The Examiner alleges that all of the features of the claimed invention would have been obvious in view of Perrizo and Ridgley. Applicant respectfully submits, however, that it would not have been obvious to combine Perrizo and Ridgley to arrive at the claimed invention. Moreover, even assuming *arguendo* that it would have been obvious to combine these references in the manner alleged by the Examiner, Applicant submits that all of the features of the claims would not have been disclosed by the resulting combination of these references.

First, with respect to the lack of motivation to combine these references in the manner alleged, Applicant respectfully submits that Perrizo and Ridgley are directed to nonanalogous subject matter to the claimed invention. That is, Perrizo and Ridgley are completely unrelated to each other, or for that matter, the claimed invention.

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Thus, the ordinarily skilled artisan would not have turned to Ridgley to make up for the deficiencies of Perrizo. Indeed, Applicant submits that the ordinarily skilled artisan would not have combined Perrizo and Ridgley to arrive at the claimed invention.

Moreover, Applicant submits that the claimed invention clearly differs from Perrizo at least because the Perrizo application is only applicable to data in binary representation.

Particularly, Applicant submits that the terminology in Perrizo “n-dimensional array” clearly is not comparable to the terminology “*n-dimensional space*” of the present invention (e.g., “*spatially indexed in N dimensions*” as recited in claim 1).

A space is a coordinate plan defined by one or more orthogonal axis. On the other hand, an n-dimensional array is merely an array with N elements.

Applicant notes that an n-dimensional array can be used to represent a coordinate in n-dimensional space. However, in order to make such a representation, it would be necessary to state the mathematical rules which dictate the semantics of each element in the array. The semantics in Perrizo are limited to radix-2 (binary) array elements and the semantics which define the addressable “space” are also derived from binary constructs (K-nearest neighbor) and so forth.

Thus, the space semantics of Perrizo are limited to binary (radix-2) array elements.

In contrast, in the claimed invention, the array elements are not limited to be of binary nature. Instead, in the claimed invention, the array elements can be of any type which conforms to a proper Euclidean space. Also, the semantics used in the claimed invention are not binary, but instead, are derived from Euclidean geometry.

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The claimed invention relates to a unique and unobvious method of indexing blocks of information into a Euclidean coordinate of N-dimensions. In the claimed invention, the dimension of the index is independent of the dimension of the data.

With respect to the visual representation of data (e.g., “viewing...” as claimed in claim 1), allegedly disclosed by Ridgley, Applicant respectfully disagrees with the Examiner’s position that the graphical interface used in Ridgley has any relevance to a spatial coordinate system.

In particular, contrary to the Examiner’s position, the Ridgley interface does not make any reference to a distance function. Also, Ridgley does not display objects in a coordinate space. Instead, Ridgley merely uses a 2-dimensional grid.

Thus, Applicant submits that the Ridgley interface is not capable of spatial navigation. Indeed, the Ridgley interface does not display data objects in an N-dimensional system and does not offer the capability to select information in view of its localization in N-dimensional space.

Therefore, Applicant submits that it clearly would not have been obvious to combine Perrizo and Ridgley to arrive at the claimed invention because Perrizo clearly does not disclose or suggest each organization of data by indexing data into an N-dimensional space, and further, because the Ridgley interface is not capable of spatial navigation.

Turning to the language of the claims, claims 1-7, 15-16, and 23 clearly would not have been obvious over Perrizo and Ridgley, either individually or in combination. Moreover, even assuming arguendo that it would have been obvious to combine Perrizo and Ridgley to arrive at the claimed invention, Applicant submits that the resulting

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combination of Perrizo and Ridgley would not disclose or suggest all of the features of the claimed invention.

Independent Claim 1

For example, with respect to independent claim 1, contrary to the Examiner's position, Applicant respectfully submits that the cited sections [0006] and [0007] of Perrizo do not disclose or suggest "blocks spatially indexed in N dimensions", as alleged by the Examiner.

An index is not data itself. Instead, an index is a pointer to data. In Perrizo, the binary representation of the data itself is used as a coordinate. Thus, Perrizo clearly does not use an index, as claimed.

Furthermore, an n-dimensional array is not comparable to a coordinate in N-dimensional space, as mentioned above. In contrast in the Perrizo method, no index is used, and the data itself must be in binary representation of size N.

With respect to the claimed step of "*accessing a second data block ... viewed as closest to first data block*", Applicant submits that such clearly is not disclosed or suggested by Perrizo at paragraphs [0226], [0222], [0225], and/or [0229].

Indeed, none of the references cited even mentions accessing data. Instead, the Perrizo reference, for example, simply describes a method to estimate a function between two binary elements, but does not make any reference to the fact that a particular data block is accessed and that the subsequent estimation is done as a consequence of a data access operation. Thus, contrary to the Examiner's position, there is no mention in the cited portions of Perrizo to a data access operation.

In comparison, the claimed invention clearly describes a data access operation (e.g., visiting a data link; see also specification at page 18, lines 7-15).

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Furthermore, the distance method in the claimed invention is not limited to binary data, as mentioned above.

With respect to the claimed "*closeness relationship between ... data blocks*", the Perrizo method clearly does not use an indirect index and is therefore limited to binary data, which limits the applicability of the method.

Also, the Perrizo method clearly does not disclose or suggest computing distances in N-dimensional space, as mentioned above.

With respect to "*viewing ... of a closeness relationship*", the cited portion of Ridgley (i.e., Ridgley at column 2, lines 30-50) clearly does not disclose or suggest displaying information according to the location in an N-dimensional space.

Indeed, the Ridgley graphical interface is not based in the notion of a "space", which is defined by a set of orthogonal axis and a coordinate system.

Thus, Applicant respectfully submits that it clearly would not have been obvious to modify Perrizo in view of Ridgley, as alleged by the Examiner, because Ridgley is not designed for (or directed to) a coordinate space system.

Dependent claims 2-7, 15, 16, and 23

Applicant submits that dependent claims 2-7, 15, 16, and 23 are patentable over Perrizo and Ridgley, either individually or in combination, by virtue of their dependency from claim 1, as well as for the additional features recited therein.

With respect to dependent claim 2, Applicant notes the term "distance" in Perrizo does not refer to the distance function in Euclidean space. Thus, Perrizo does not disclose or suggest "*based on a calculation of a distance function*", as claimed.

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Also, Ridgely does not disclose or suggest “*without traversing a hypertext link*”, etc., as recited in claim 2. Indeed, the relied upon portions of Ridgely clearly do not even mention “links”.

With respect to dependent claim 3, Applicant submits that there is no disclosure (or suggestion) of a spatial coordinate system in Ridgely. Thus, the alleged combination of Perrizo and Ridgely clearly would not allow the user to “*traverse data blocks horizontally*”, as recited in claim 3.

Furthermore, there is no disclose or concept of spatial distance in Ridgely. The term “*distance*” clearly is not comparable to a Euclidean distance in a coordinate system. Thus, it would not have been obvious to adapt Ridgely to a spatial coordinate system.

Therefore, it clearly would not have been obvious to combine Perrizo and Ridgely to arrive at the claimed invention recited in claim 3.

With respect to dependent claim 4, which recites, *inter alia*, that “*N is a number of words or subjects in a selected corpus*”, Applicant submits that paragraph [0233] of Perrizo clearly does not disclose or suggest using N words to constitute a space coordinate system. The “distance” relationship referred to in Perrizo clearly is not comparable to the distance in a coordinate system, according to the claimed invention.

Instead, the cited portion of Perrizo merely refers to a method of partitioning data into clusters, which is completely unrelated to the subject matter of the claimed invention.

On the other hand, dependent claim 5 recites, *inter alia*, a step of “*inputting, by a user... a collection of data blocks...selectively containing data, metadata and links...*”

In comparison, in the cited references, the input of the user merely is a simple text string “restaurants”, which clearly is not comparable to a collection of data blocks, containing data, metadata, and links, as claimed in claim 5.

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With respect to dependent claim 6, Applicant submits that the portions of the references relied upon by the Examiner clearly do not disclose or suggest “search criteria in a spatial indexing process”, as claimed.

Thus, it would not have been obvious to modify Ridgley to take as input “a search depth defining how many links...” as recited in claim 6. Clearly, the alleged combination/modification of Perrizo and Ridgley does not make any sense (and is unreasonable) because Perrizo also does not make any mention to hyperlinks.

With respect to dependent claim 7, which recites, *inter alia*, “creating ... an index record”, etc., Applicant submits that neither Perrizo nor Ridgley describes the concept of creating and using an index, as mentioned above, since Perrizo (which is relied upon for the reaching of an index), in fact, does not use an index.

With respect to dependent claim 15, which recites, *inter alia*, “positioning, by the user, a search focus and directing coordinates of a search”, Applicant submits that Ridgley clearly does not disclose or suggest a special system, and therefore, clearly is not capable of directing coordinates. Indeed, paragraph [0233] of Ridgley does not describe a spatial system, but rather, Ridgley describes a system for grouping data into clusters.

With respect to dependent claim 23, which recites, *inter alia*, “selectively providing documents with or without any inter-document links”, Applicant submits that the cited references clearly do not disclose, suggest, or even address the concept of hyperlinks.

For the foregoing reasons, Applicant submits that the alleged combination of Perrizo and Ridgley clearly does not achieve or provide the functionality or advantages of the claimed invention, as exemplarily described in the present application. Hence, the alleged combination would not (and could not) result in the claimed combination.

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Moreover, the cited portions of Perrizo and Ridgley clearly are not comparable to the elements recited in the claimed invention. Thus, the alleged combination of Perrizo and Ridgley clearly is not comparable to the claimed invention and would not arrive at the claimed invention.

Moreover, Applicant submits that it would not have been obvious to combine the references in the manner alleged because the Examiner's rational for combining the references makes unreasonable leaps and assumptions in order to try to show all of the features of the claimed invention. The Examiner's assumptions are not, however, based on the disclosures of the cited references, but instead, appear to be improperly based on Applicant's own invention (i.e., impermissible hindsight based analysis).

Thus, Applicant respectfully submits, however, that it would not have been obvious to combine Perrizo and Ridgley to arrive at the claimed invention. Moreover, even assuming *arguendo* that it would have been obvious to combine these references in the manner alleged by the Examiner, Applicant submits that all of the features of the claims would not have been disclosed by the resulting combination of these references.

B. Claims 17-22 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Perrizo in view of Ridgley, and further in view of Lipson.

Applicant respectfully submits that claims 17-22 are patentable over Perrizo, Ridgley, and Lipson, either individually or in combination, at least for somewhat similar reasons as those set forth above, as well as for the additional features recited therein.

As with claim 1 above, Applicant respectfully submits that it would not have been obvious to combine Perrizo, Ridgley, and Lipson to arrive at the claimed invention. Moreover, even assuming *arguendo* that it would have been obvious to combine these

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references in the manner alleged by the Examiner, Applicant submits that all of the features of the claims would not have been disclosed by the resulting combination of these references.

With respect to dependent claim 17, Applicant submits that Perrizo clearly does not disclose or suggest a projection in 3 dimensions by first selecting data blocks. As mentioned above, an "array" of dimension 3 is not comparable to, or equivalent to, a coordinate "space" of 3 dimensions. On the other hand, Lipson does not disclose or suggest a "projection" (of a coordinate in higher dimensional space) in three dimensions.

As mentioned above, Perrizo is limited to binary data. On the other hand, Lipson is limited to 3-dimensional data. However, none of the cited references describes how to project higher dimensional coordinates into lower dimensional space.

With respect to dependent claim 18, Applicant submits that the cited references do not disclose or suggest at least "*displaying search results in a scatter-plot*", as claimed.

Indeed, Applicant respectfully submits that the cited references are completely unrelated to the subject matter of claim 18. In fact, there is no mention of a scatter plot display in either Perrizo, Ridgley, or Lipson.

With respect to dependent claim 19, Applicant submits that a grid layout is not comparable to a scatter plot display in N-dimensional space, as mentioned above. Thus, Applicant respectfully submits that the cited references also are completely unrelated to the subject matter of claim 19.

With respect to dependent claim 20, Applicant submits that a telephone key pad or numeric keypad are limited to navigation into a 2-dimensional grid, and thus, clearly are not suitable for navigation in 3 dimensional space.

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With respect to dependent claim 21, the cited references clearly do not disclose or suggest a position in n-dimensional space, or for that matter, the concept of a proximity list.

With respect to claim 22, Applicant reiterates that a 2 dimensional grid clearly would not be comparable to a spatial navigation in N-dimensional space.

For the foregoing reasons, Applicant respectfully submits that claims 17-22 clearly would not have been obvious over Perrizo, Ridgley, and Lipson, either individually or in combination, for somewhat similar reasons as those set forth above, as well as for the additional features recited therein.

Thus, the Examiner is requested to withdraw this rejection and permit claims 17-22 to pass to immediate allowance.

V. NEW CLAIMS

New claims 32-34 have been added to provide more varied protection for the present invention.

Applicant submits that new claims 32-34 are patentable over the cited references for somewhat similar reasons as those set forth above, as well as for the additional features recited therein.

Thus, the Examiner is requested to permit claims 32-34 to pass to immediate allowance.

VI. FORMAL MATTERS AND CONCLUSION

Applicant thanks the Examiner for considering the references cited in the Information Disclosure Statements filed on April 22, 2004 and September 27, 2004.

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However, it is noted that, for some reason, the Examiner has not provided an initialed and signed form PTO 1449's for the Information Disclosure Statement filed on February 28, 2005. However, the Information Disclosure Statement's fully complied with M.P.E.P. § 609 and 37 C.F.R. §§ 1.97-1.99.

Regarding the February 28, 2005 IDS, it was noted in the IDS that the references were cited in co-pending related Application No. 09/893,789, in an Office Action dated January 13, 2005. Again, this is in full compliance with M.P.E.P. § 609 and 37 C.F.R. §§ 1.97-1.99.

Hence, the Examiner is requested to consider and initial all of the references cited on the PTO-1449 Forms for the Information Disclosure Statement filed on February 28, 2005. For the Examiner's convenience, duplicate copies of the respective PTO-1449 Forms are resubmitted herewith.

In view of the foregoing, Applicant submits that claims 1-23 and 32-34, all the claims presently pending in the application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

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The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0510.

Respectfully Submitted,


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CERTIFICATE OF TRANSMISSION

I certify that I transmitted via facsimile to (703) 872-9306 the enclosed Amendment under 37 C.F.R. § 1.111 to Examiner Quoc A. Tran, Group Art Unit 2176, on June 27, 2005.


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